

CLAIMS

What is claimed is:

1. A rotary product processing device comprising:
 - (A) a frame;
 - (B) a product processing chamber carried by the frame;
 - (C) an auger disposed in the product processing chamber;
 - 5 (D) a drive carried by the frame that causes rotation of the auger.
2. The rotary product processing device of claim 1, wherein the frame is comprised of a pair of end plates that each rest on the ground and a sidewall that extends from one of the end plates to the other one of the end plates.
3. The rotary product processing device of claim 1, wherein the frame is comprised of an end plate to which the drive is mounted.
4. The rotary product processing device of claim 3, wherein the drive is comprised of a motor coupled to a gearbox that is mounted to the end plate.
5. The rotary product processing device of claim 1, wherein the frame is comprised of a pair of end plates that each have an annular bearing that rotatively supports the auger.

6. The rotary product processing device of claim 5, wherein the auger is engaged with the product processing chamber such that both rotate in unison, and wherein each annular bearing rotatively contacts one end of the product processing chamber.
7. The rotary product processing device of claim 5, wherein each bearing is immovably fixed to one of the end plates and each bearing is of non-metallic construction.
8. The rotary product processing device of claim 5, wherein each bearing is immovably fixed to one of the end plates and each bearing is indexable to move its wear surfaces so as to encourage more uniform bearing wear.
9. The rotary product processing device of claim 1, further comprising an annular bearing arrangement disposed at one end of the product processing chamber that rotatively supports the one end of the rotary processing chamber and the auger, and an annular bearing arrangement disposed at the other end of the product processing chamber
5 that rotatively supports the other end of the rotary processing chamber and the auger.
10. The rotary product processing device of claim 1, wherein the product processing chamber has a journal at each end that is rotatively supported by a non-moving arcuate bearing.

11. The rotary product processing device of claim 1, wherein the product processing chamber has a journal at each end that is cradled by a non-moving arcuate bearing that is of one-piece, unitary, homogenous and non-metallic construction.
12. The rotary product processing device of claim 1, wherein the frame comprises an end plate of one piece and unitary construction that carries the drive such that the drive is disposed above the rotary processing chamber.
13. The rotary product processing device of claim 1, wherein the frame comprises a pair of end plates of one piece and unitary construction and a sidewall of one piece and unitary construction that has a pair of side edges, with one of the side edges abutting one of the end plates and the other one of the side edges abutting the other one of the end plates, wherein each side edge has a plurality of locator tabs extending outwardly therefrom that are each received in a locator slot in one of the end plates.
14. The rotary product processing device of claim 13, wherein each locator tab and each locator slot extend diagonally and when mated each locator tab received in its corresponding locator slot provide a fixture for fabrication.
15. The rotary product processing device of claim 1, wherein the frame comprises a

vertically extending end plate of one piece and unitary construction that carries the drive and the frame comprises a vertically extending cover that overlies the end plate forming a drive assembly housing therebetween and wherein the drive further comprises a drive
5 assembly disposed in the drive assembly housing.

16. The rotary product processing device of claim 1, wherein the product processing chamber comprises a perforate drum, and further comprising a pair of non-metallic bearing cradles immovably attached to the frame with one of the non-metallic bearing cradles rotatively supporting one end of the perforate drum and the other end of the non-
5 metallic bearing cradles rotatively supporting the other end of the perforate drum.

17. The rotary product processing device of claim 1, wherein the frame comprises a first end plate of one piece and unitary construction that carries the drive and a second end plate of one piece and unitary construction that has a bore in which is disposed a conduit having orifices from which fluid is discharged during operation.
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18. The rotary product processing device of claim 1, wherein the frame comprises an end plate of one piece and unitary construction that carries the drive and further comprising a drive arrangement that is also carried by the end plate and which couples the drive to the auger.
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19. The rotary product processing device of claim 1, further comprising a hood of one piece and unitary construction that has a plurality of integrally formed handles, wherein the hood overlies the product processing chamber and is carried by the frame.

20. A rotary product processing device comprising:

(A) a frame comprised of a plurality of end plates that are each of one piece and unitary construction and a sidewall of one piece and unitary construction that is joined along one side edge to one of the end plates and is joined along its other side edge to the other one of the end plates;

(B) a bearing cradle mounted to each end plate;

(C) a tubular and perforate product processing chamber rotatively supported at or adjacent each end by one of the bearing cradles; and

(D) a drive mounted to one of the end plates that is coupled by a drive arrangement carried by the one of the end plates to the product processing chamber.

21. The rotary product processing device of claim 20, wherein each bearing cradle does not move during operation and wherein each bearing cradle is comprised of at least one component that is of one piece, unitary, homogenous and non-metallic construction.

22. The rotary product processing device of claim 20, wherein each bearing cradle is of immovable, annular and non-metallic construction.

23. The rotary product processing device of claim 20, wherein the sidewall is constructed and arranged to underlie the processing chamber and form a fluid-holding tank.

24. The rotary product processing device of claim 20, further comprising an auger disposed in the product processing chamber.

25. The rotary product processing device of claim 24, wherein the auger is carried by the product processing chamber for rotation substantially in unison therewith.

26. A rotary product processing device comprising:

(A) a frame comprised of a plurality of end plates that are each of one piece and unitary construction and a sidewall of one piece and unitary construction that is engaged along one side edge to one of the end plates and is engaged along its other side edge to the other one of the end plates, wherein one of the end plates has an inlet bore and the other one of the end plates has an outlet bore;

(B) a first arcuate bearing cradle of one-piece, unitary, non-metallic and homogenous construction that is immovably fixed to one of the end plates and encompassing at least a portion of the inlet bore;

(C) a second arcuate bearing cradle of one-piece, unitary, non-metallic and

homogenous construction that is immovably fixed to the other one of the end plates and encompassing at least a portion of the outlet bore;

(D) a tubular product processing chamber having a perforate body with a journal at each end with one journal rotatively supported by one of the bearing cradles
15 and the other journal rotatively supported by the other one of the bearing cradles; and

(E) a drive carried by the frame that is coupled to the product processing chamber.

27. The rotary product processing device of claim 26, wherein one of the first and second bearing cradles comprises both a rotary bearing and a thrust bearing.

28. A rotary product processing device comprising:

(A) a plurality of end plates and a sidewall extending therebetween, wherein one of the end plates has an inlet bore and the other one of the end plates has an outlet bore;

5 (B) a first annular bearing of non-metallic construction that is immovably fixed to one of the end plates and encompassing the inlet bore;

(C) a second annular bearing of non-metallic construction that is immovably fixed to the other one of the end plates and encompassing the outlet bore;

(D) a tubular product processing chamber having a perforate body with a
10 journal at each end with one journal rotatively supported by the first annular bearing and

the other journal rotatively supported by the second annular bearing; and

(E) a drive that is coupled to the product processing chamber for rotating the product processing chamber relative to the first and second annular bearings.

29. The rotary product processing device of claim 28, wherein one of the first and second annular bearings comprises both a rotary bearing and a thrust bearing.

30. A rotary product processing device comprising:

(A) a frame comprised of a plurality of end plates that are each of one piece and unitary construction and a sidewall of one piece and unitary construction that is engaged along one side edge to one of the end plates and is engaged along its other side

5 edge to the other one of the end plates, wherein one of the end plates has an inlet bore and the other one of the end plates has an outlet bore;

(B) a first bearing disposed adjacent the inlet bore;

(C) a second bearing disposed adjacent the outlet bore;

(D) a tubular product processing chamber having a perforate body with a
10 journal at each end with one journal rotatively supported by one of the bearings and the other journal rotatively supported by the other one of the bearings;

(E) a drive carried by one of the end plates; and

(F) a drive arrangement that is carried by the one of the end plates that couples the drive to the product processing chamber.

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31. A rotary product processing device comprising:

(A) a frame comprised of a plurality of end plates that are each of one piece and unitary construction and a sidewall of one piece and unitary construction that is engaged along one side edge to one of the end plates and is engaged along its other side edge to the other one of the end plates, wherein one of the end plates has an inlet bore and the other one of the end plates has an outlet bore;

(B) a first bearing arrangement of non-metallic and homogenous construction that is mounted to one of the end plates and which encompasses at least part of the inlet bore;

10 (C) a second bearing arrangement of non-metallic and homogenous construction that is mounted to the other one of the end plates and which encompasses at least part of the outlet bore;

(D) a tubular product processing chamber having a perforate body with a journal at each end with one journal rotatively supported by one of the bearing arrangements and the other journal rotatively supported by the other one of the bearing arrangements;

(E) a drive carried by one of the end plates; and

(F) a drive arrangement that is carried by the one of the end plates that couples the drive to the product processing chamber.

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